





# UNITED STATES PATENT OFFICE.

FREDERIK WILHELM STEUER, OF PLAINFIELD, NEW JERSEY.

## HYPODERMIC SYRINGE.

SPECIFICATION forming part of Letters Patent No. 782,800, dated February 14, 1905.

Application filed August 23, 1904. Serial No. 221,812.

*To all whom it may concern:*

Be it known that I, FREDERIK WILHELM STEUER, a citizen of the United States, residing at Plainfield, Union county, in the State of New Jersey, have invented certain new and useful Improvements in Hypodermic Syringes, of which the following is a full, clear, and exact specification.

My invention relates to improvements in syringes; and the same has for its object more particularly to provide a hypodermic syringe of simple, neat, and compact construction which shall be easy to operate, require no adjusting or preparation to fit the same for use, and which will not be apt to get out of order.

Further, said invention has for its object to provide a syringe having a piston and rod of novel construction serving as a container or receptacle for various articles which are commonly employed in connection with a syringe of the character set forth.

To these ends my invention consists in the novel details of construction and in the combination, connection, and arrangement of parts, hereinafter more fully described and then pointed out in the claims.

In the accompanying drawings, forming part of this specification, wherein like numerals of reference indicate like parts, Figure 1 is a side view of a syringe constructed according to and embodying my invention aforesaid. Fig. 2 is a vertical central section of the same; and Fig. 3 is an enlarged detail central section, showing the construction of the top or cap of the piston-rod and the manner of securing an article therein.

In said drawings, 10 designates a syringe consisting of the cylindrical or tubular barrel 11, provided at its upper and lower edges with screw-threads and at its bottom with a screw-threaded nozzle 12, adapted to receive the needle 13, which is protected upon the end of the barrel 11 by a cap 14, having a shoulder 15 therein near its upper end, upon which shoulder is disposed a washer or packing 16, and upon the inner surface of said cap 14 above said shoulder and packing are provided screw-threads which are adapted to engage those upon the lower edge of the barrel 11. Upon the upper end of the barrel 11 is a nut 17,

which engages the screw-threads upon the upper end of said barrel and is provided with a central aperture 18, through which passes the hollow or tubular piston-rod 19, carrying a solid piston 20 at its lower end. The rear or upper end of said piston 20 is hollowed out, as shown at Fig. 2, and provided at its end with an annular recess 21, into which is firmly secured the inner end of the hollow piston-rod 19, the inner wall or surface of which registers with that of the piston 20 to form a smooth unbroken surface. The outer or upper end of the hollow piston-rod 19 is socketed in a head 22, which is provided with a central aperture extending therethrough and screw-threaded upon its surface.

23 denotes a top or cap provided upon its under surface with a centrally-located hollow boss 24, which is screw-threaded upon its outer surface and adapted for securement within the screw-threaded head on the upper end of the hollow piston-rod 19. Upon the inner surface of the hollow recessed portion or socket 25 of said boss 24 is disposed a resilient packing or lining 26, which may be of rubber or any other suitable substance, and 27 represents a clinical thermometer the upper end of which is located within the socket 25 of the top 23 and held firmly in position therein by frictional contact with the packing 26 aforesaid.

The operation of the syringe is obvious. It is to be noted, however, that instead of a thermometer many other articles may be disposed within the piston-rod, such as a glass tube containing medicinal tablets, needles, or other objects.

Without limiting myself to the details of construction, which may be varied within the scope of the invention, what I claim, and desire to secure by Letters Patent, is—

1. A syringe comprising a barrel, an outlet therein, a piston arranged in said barrel, a hollow rod secured at one end to said piston, a cap for sealing the other end of said rod, provided with means adapted to engage and hold one end of an elongated body, and maintain the remainder thereof in position with said rod free from the walls thereof, substantially as specified.

2. A syringe comprising a barrel, an outlet



therein, a piston having a socket therein arranged to work in said barrel, a hollow rod secured at one end to said socketed piston, a screw-cap for sealing the other end of said rod, 5 and means arranged upon the under side of said screw-cap adapted to engage and hold one end of an elongated body, and maintain the remainder thereof in position within said hollow rod and socketed piston free from the 10 walls thereof, substantially as specified.

3. A syringe comprising a barrel, an outlet therein, a piston having a socket therein arranged to work in said barrel, a hollow rod secured at one end within said socketed piston, 15 a screw-cap for sealing the other end of said rod, a socket in the under side of said screw-cap, and means arranged within said socket adapted to engage and hold one end of an elongated body, and maintain the remainder thereof 20 in position within said hollow rod and socketed piston free from the walls thereof, substantially as specified.

4. A syringe comprising a barrel, an outlet therein, a solid piston having a socket in its 25 rear end arranged in said barrel, a hollow rod secured at one end to said piston within the socket therein, and a cap for sealing the other

end of said rod, having a socket in its under side, adapted to receive and hold one end of an elongated body, and maintain the remainder 30 thereof in position within said rod and piston free from the walls thereof, substantially as specified.

5. A syringe comprising a barrel, an outlet therein, a solid piston having a socket in its 35 rear end, a recess around the edge of said socket, a hollow rod secured at one end within the recessed end of the socket in said piston, a head secured upon the outer surface of said rod at its other end, and a screw-cap for sealing 40 said open end comprising a head having a boss extending from its under side, a socket in said boss adapted to receive and hold one end of an elongated body, and a resilient lining or packing disposed within said socket, 45 substantially as specified.

Signed at Plainfield, in the county of Union, State of New Jersey, on the 19th day of August, 1904.

FREDERIK WILHELM STEUER.

Witnesses:

JOSEPH A. TAYLOR,  
MAX STAEDTGEN.